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- (74) Agent: BAYLISS, Geoffrey, Cyril; Boulton Wade Tennant, Verulam Gardens, 70 Gray's Inn Road, London WC1X 8BT (GB).
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- (71) Applicant (for all designated States except US): DEV-GEN NV [BE/BE]; Technologiepark 9, B-9052 Zwijnaarde (BE).
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- (72) Inventors; and  
(75) Inventors/Applicants (for US only): PLAETINCK, Geert [BE/BE]; Pontstraat 16, B-9820 Merelbeke (BE). MORTIER, Katherine [BE/BE]; Paddenhoek 20, B-9830 St.-Martens Latem (BE). LISSENS, Ann [BE/BE]; Tiensesteenweg 137, B-3010 Kessel-Lo (BE). BOGAERT, Thierry [BE/BE]; Wolvendreef 26g, B-8500 Kortrijk (BE).
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



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(54) Title: IMPROVEMENTS RELATING TO DOUBLE-STRANDED RNA INHIBITION

(57) Abstract: There are described ways of improving the efficiency of double stranded RNA inhibition as a method of inhibiting gene expression in nematode worms such as *C. elegans*. In particular, the invention relates to the finding that changes in the genetic background of *C. elegans* result in increased sensitivity to double-stranded RNA inhibition.

## INTERNATIONAL SEARCH REPORT

International Application No  
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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/10 C12N9/22 C07K14/435 C12N15/66 C12N15/70  
C12N1/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BIOSIS, EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TIMMONS L ET AL: "Specific interference by ingested dsRNA" NATURE, MACMILLAN JOURNALS LTD. LONDON, GB, vol. 395, no. 6705, 29 October 1998 (1998-10-29), page 854 XP002103601 ISSN: 0028-0836 the whole document	1-4, 12-21, 23-25, 28-31, 34-39
A	FIRE A ET AL: "Potent and specific genetic interference by double-stranded RNA in <i>Caenorhabditis elegans</i> " NATURE, GB, MACMILLAN JOURNALS LTD. LONDON, vol. 391, 19 February 1998 (1998-02-19), pages 806-811, XP002095876 ISSN: 0028-0836 cited in the application the whole document	1-4
-/-		

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

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- \*O\* document referring to an oral disclosure, use, exhibition or other means
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- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Mateo Rosell, A.M.

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International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	RAY C ET AL: "GUT-SPECIFIC AND DEVELOPMENTAL EXPRESSION OF A CAENORHABDITIS ELEGANS CYSTEINE PROTEASE GENE" MOLECULAR AND BIOCHEMICAL PARASITOLOGY,NL,ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, vol. 51, 1992, pages 239-249, XP000572340 ISSN: 0166-6851 abstract	2-4,8
A	RAND J B ET AL: "GENETIC PHARMACOLOGY: INTERACTIONS BETWEEN DRUGS AND GENE PRODUCTS IN CAENORHABDITIS ELEGANS" METHODS IN CELL BIOLOGY,LONDON,GB, vol. 84, 1995, pages 187-204, XP000956211 page 190, paragraph 1 -page 194, paragraph 4	1-4,8
A	AVERY LEON ET AL: "The Caenorhabditis elegans unc-31 gene affects multiple nervous system-controlled functions." GENETICS, vol. 134, no. 2, 1993, pages 455-464, XP001011453 ISSN: 0016-6731 the whole document	2-4,8
A	TAGESSON C ET AL: "INFLUENCE OF SURFACE-ACTIVE FOOD ADDITIVES ON THE INTEGRITY AND PERMEABILITY OF RAT INTESTINAL MUCOSA" FOOD AND CHEMICAL TOXICOLOGY, vol. 22, no. 11, 1984, pages 861-864, XP001009621 ISSN: 0278-6915 the whole document	8

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International Application No.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	<p>LYON CHRISTOPHER J ET AL: "The C. elegans apoptotic nuclease NUC-1 is related in sequence and activity to mammalian DNase II."</p> <p>GENE (AMSTERDAM), vol. 252, no. 1-2, 11 July 2000 (2000-07-11), pages 147-154, XP001009494 ISSN: 0378-1119 abstract; figure 3 page 151, right-hand column, paragraph 2 -page 153, right-hand column, paragraph 2</p>	6,7
P,X	<p>WO 00 01846 A (MORTIER KATHERINE ;DEVGEN NV (BE); BOGAERT THIERRY (BE); PLAETINCK) 13 January 2000 (2000-01-13) cited in the application</p> <p>page 8, line 9 -page 10, line 22 page 12, line 14 -page 23, line 2 figures 5,9; examples 1-4</p>	1-4, 12-21, 23-25, 28-31, 34-39
P,X	<p>WO 00 63425 A (FEICHTINGER RICHARD ;BEGHYN MYRIAM (BE); DEVGEN NV (BE); BOGAERT T) 26 October 2000 (2000-10-26) abstract page 2, line 14-30 page 6, line 18-33 page 7, line 12 -page 9, line 28 page 12, line 20 -page 13, line 25; example 3</p>	2-5,8,9, 29-33
T	<p>TIMMONS LISA ET AL: "Ingestion of bacterially expressed dsRNAs can produce specific and potent genetic interference in Caenorhabditis elegans."</p> <p>GENE (AMSTERDAM), vol. 263, no. 1-2, 2001, pages 103-112, XP001009512 ISSN: 0378-1119 the whole document</p>	1-4, 12-21, 23-26, 28-31, 34-39

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Information on patent family members

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		EP 1093526 A	25-04-2001
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